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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/711,981  | 10/18/2004  | Yen-Fu Chen          | RSW920040131US1     | 5980             |
| 25259   | 7590        | 07/26/2006           | EXAMINER            |                  |
| IBM CORPORATION<br>3039 CORNWALLIS RD.<br>DEPT. T81 / B503, PO BOX 12195<br>REASEARCH TRIANGLE PARK, NC 27709 |             |                      | DUONG, OANH L       |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2155                |                  |

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/711,981             | CHEN ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Oanh Duong             | 2155                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/25/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. Claims 1-3 are presented for examination.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gandhi et al. (Gandhi), US 2005/0120102 A1, in view of Sankaranarayan et al. (Sankaranarayan), US 6,799,208 B1, and further in view of Rolia et al. (Rolia), US 2005/0240668 A1.

Regarding claim 1, Gandhi teaches process for allocating a resource (i.e., method for allocating network resource, page 2 paragraph [0019]), the process comprising:

determining if the resource has been allocated to an any customer that is not using the resource (i.e., determining if there are excess tokens, which represent unused network resource allocated to a customer. Page 2 paragraph [0025]).

Gandhi does not teach classifying a plurality of customers into a plurality of premium customers and a plurality of standard customers where a premium customer is

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entitled to a first compensation rate when there is a breach of a premium customer's service level agreement, where a standard customer is entitled to a second compensation rate when there is a breach of the standard customer's service level agreement, and where the second compensation rate is less than the first compensation rate; responsive to a profiling tool indicating that the premium customer's available resource cannot provide an agreed service level resulting in a breach of the premium customer; responsive to determining that the resource has not been allocated to the any customer that is not using the resource, determining if the resource has been allocated to a standard customer; responsive to determining that the resource has been allocated to the standard customer, re-allocating the resource from the standard customer to premium customer; and so that the service provider minimizes a compensation to be paid to the premium customer.

Rolia, in the same of endeavor, teaches classifying a plurality of customers into a plurality of premium customers and a plurality of standard customers where a premium customer is entitled to a first compensation rate when there is a breach of a premium customer's service level agreement, where a standard customer is entitled to a second compensation rate when there is a breach of the standard customer's service level agreement, and where the second compensation rate is less than the first compensation rate (Fig. 1, page 2 paragraph [0025] and [0028], page 7 paragraph [0064], and page 10 paragraphs [0092]-[0094]);

responsive to a profiling tool indicating that the premium customer's available resource cannot provide an agreed service level resulting in a breach of the premium

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customer (page 6 paragraph [0060], page 9 paragraph [0090]- page 10 paragraph [0094]);

so that the service provider minimizes a compensation to be paid to the premium customer (page 10 paragraphs [0093]-[0095]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Gandhi to classify a plurality of customers into a plurality of premium customers and a plurality of standard customers where a premium customer is entitled to a first compensation rate when there is a breach of a premium customer's service level agreement, where a standard customer is entitled to a second compensation rate when there is a breach of the standard customer's service level agreement, and where the second compensation rate is less than the first compensation rate; responsive to a profiling tool indicating that the premium customer's available resource cannot provide an agreed service level resulting in a breach of the premium customer; so that the service provider minimizes a compensation to be paid to the premium customer as taught by Rolia. One would be motivated to do so to reduce the likelihood of underestimating the costs and amount of resources needed by an application admitted and running within the system over a period of time (Rolia, page 2 paragraph [0024]).

Sankaranarayan teaches resources management architecture implemented in computer system to manage resource wherein various policies are used to allocate resources (see abstract). Sankaranarayan teaches responsive to determining that the resource has not been allocated to any customer that is not using the resource,

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determining if the resource has been allocated to a standard customer (col. 15 lines 1-19); responsive to determining that the resource has been allocated to a standard customer, re-allocating the resource from the standard customer to the premium customer (col. 14 lines 1-41 and col. 15 lines 19-42).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Gandhi to reallocate the resource from standard/lower priority customer to premium/higher-priority customer as taught by Sankaranarayan. One would be motivated to do so to allow resources to dynamically/flexibly allocated based on which applications and/or customers have priority over others to use the resources (Sankaranarayan, col. 5 lines 11-13).

Regarding claim 3, this claim is program, encoded in a computer-readable medium causing computer to execute the process of claim 1, discussed above, same rationale of rejection is applicable.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Gandhi** et al. (hereafter, Gandhi), U.S. Pub. No. **2005/0120102** A1 in view of Rolia et al. (Rolia), US 2005/0240668 A1, and further in view of **Sankaranarayan** et al. (hereafter, Sankaranarayan), U.S. Patent No. **6,799,208** B1.

Regarding claim 2, **Gandhi** teaches a data processing machine for allocating a resource to a customer in a shared computing environment (i.e., devices *for allocating network resources*, page 2 paragraph [0019]), the machine comprising:

a processor (*processor 863*, Fig. 8 paragraph [0076]);

a memory (*memory 865*, Fig. 8 paragraph [0077];

determining if the resource has been allocated to any customer that is not using the resource (i.e., *determining if there are excess tokens, which represents unused network resources allocated to a customer*, page 2 paragraph [0025]).

**Gandhi** does not explicitly teach a service level agreement stored in a memory, the service level agreement setting a threshold performance level for a resource and a penalty for failing to meet the threshold performance level; mean for causing a processor to measure the performance level of the resource; means for causing the processor to compare the performance level with the threshold performance level; and reallocating a resource from a standard customer to premium customer as claimed.

**Rolia**, in the same field of endeavor, teaches a service level agreement stored in the memory (page 6 paragraph [0056]), the service level agreement setting a threshold performance level for the resource and a penalty for failing to meet the threshold performance level were the contract not to be fulfilled (page 6 paragraph [0060], page 8 paragraphs [0077]-[0081]); and so that a service provider minimizes the penalty for breaching the server level agreement (pages 708 paragraph [0072]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the service level agreement setting a threshold performance level for the resource and a penalty for failing to meet the threshold performance level as taught by Rolia in the process of allocating resources in **Gandhi**. One would be motivated to do so to reduce the likelihood of underestimating the costs and



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amount of resources needed by an application admitted and running within the system over a period of time (Rolia, page 2 paragraph [0024]).

Sankaranarayan teaches resource management architecture implemented in computer systems to manage resources wherein various policies are used to allocate resources (see abstract). Sankaranarayan teaches allocating a resource to a premium customer in a shared computing environment (i.e., *reassigning/reallocating resources from a low priority customer to higher priority customer, col. 5 line 14-17*); means for causing a processor to measure the performance level of the resource (i.e., *calculating the availability of given resources can be used, col. 8 lines 1-18*); and means for causing the processor to compare the measured the performance level with the threshold (i.e., *the provider compares the accumulator value to the total amount of resources it has, col. 15 line 64-col. 16 line 22*); responsive to determining that the measured performance level does not meet the threshold performance level (i.e., *the provider adds the amount of resources required for activity A2 and finds it exceeds the total amount of resources that it has. The resource provider returns a notice that it cannot satisfy the request given its current allocation, the resource manager then evaluates whether there is any lower priority activity that currently using the requested resources, col. 15 line 64-col. 16 line 22*), determining if the resource has been allocating to a standard customer (i.e., *the resource manager 102 checks all configurations 124 of all activities 122 with a lower priority than the one currently requesting resources to determine if any low priority activity is currently using resources, col. 15 lines 1- 18 and col. 13 lines 47-67*); and responsive to determining that the resource has been allocated to a standard



customer, re-allocating the resource from the standard customer to the premium customer (i.e., *the resource manager can reclaim resources from lower priority activities to satisfy the reservation request of a higher priority activity*, col. 12 lines 22-45);

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify **Gandhi** to measure the performance level of resources, to compare the measured performance level with the threshold performance level and to reallocate the resource from a standard/lower-priority customer to premium/higher-priority customer as in **Sankaranarayan**. One would be motivated to do so to allow resources to be dynamically/flexibly allocated based on which applications and/or customers have priority over others to use the resources (**Sankaranarayan**, col. 5 lines 11-13).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Oanh Duong whose telephone number is (571) 272-3983. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.D  
July 24, 2006

  
SALEH NAJJAR  
SUPERVISORY PATENT EXAMINER